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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,616	06/30/2000	Jayashankar Bharadwaj	042390.P8130	9458

7590 02/02/2004

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EXAMINER

KISS, ERIC B

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 02/02/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/608,616

Applicant(s)

BHARADWAJ ET AL.

Examiner

Eric B. Kiss

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 11-14, 21-24 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-14, 21-24 and 31-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The reply filed November 7, 2003, has been received and entered. Claims 1-4, 11-14, 21-24, and 31-35 are pending.

***Response to Amendment***

2. Applicant has submitted a copy of the Oath/Declaration filed on October 23, 2000. It is further noted that Applicant's original signed and dated Oath/Declaration, filed on October 23, 2000, has been located within the file wrapper. Accordingly, the objection to the Oath/Declaration as defective is withdrawn.

3. Applicant's amendments to the specification and drawings do not completely address the objections to the drawings as detailed in the previous office action. Accordingly, the previous drawing objections are withdrawn unless otherwise reproduced below.

4. Applicant's cancellation of claims 5-10, 15-20, and 25-30 render all objections and rejections based on these claims moot. Accordingly, these objections and rejections are withdrawn in view of Applicant's amendment.

***Drawings***

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: “625”, “1320”, “1410”, “1415”, “1420”, “1425”, “1430”. It is noted that Applicant’s amendment to the specification to add reference symbol “620” by replacing existing reference symbol “625” has resulted in reference symbol “625” being missing from the specification. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-4, 11-14, and 21-24 have been considered but are moot in view of the new ground(s) of rejection. The new grounds of rejection presented below are necessitated by Applicant’s amendment.

***Claim Objections***

7. Claims 1, 11, 21, and 31 are objected to because of the following informalities: the word “an” should presumably appear before the first occurrence of “intermediate representation” in each independent claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-35 are rejected under 35 U.S.C. 102(a) as being anticipated by Thomas Kistler, “Continuous Program Optimization,” 1999, Ph.D. thesis, Department of Information and Computer Science, University of California, Irvine, CA (hereinafter *Kistler*).

As per claim 1, *Kistler* discloses installing a program onto a target machine, the program having an intermediate representation (see, for example, subsections 2.1 and 2.2); executing the program using the intermediate representation and an initial profile data (see, for example, subsections 2.1 and 2.2); generating a current profile data (see, for example, subsections 2.4 and 2.5); comparing the current profile data with the initial profile data (see, for example, subsections 2.4 and 2.5); and recompiling the intermediate representation to optimize the program when the current profile data in comparison with the initial profile data has exceeded a predetermined threshold (see, for example, subsections 2.4, 2.6, and 2.7).

As per claim 2, *Kistler* further discloses installing further comprising: installing a continuous compiler (see, for example, subsections 2.1 and 2.3); installing a runtime monitor (see, for example, subsections 2.1 and 2.4); copying the intermediate representation to the target machine (see, for example, subsection 2.2); building the initial profile data (see, for example, subsections 2.1, 2.2, and 2.5); and compiling the intermediate representation to create an executable file (see, for example, subsection 2.3).

As per claim 3, *Kistler* further discloses executing further comprising: running an executable version of the program (see, for example, subsections 2.2 and 2.3); collecting samples of process information at a controlled rate (see, for example, subsections 2.4 and 2.5); and while the target machine is idle, generating binary level and high level profiles (see, for example, subsections 2.1 and 2.5).

As per claim 4, *Kistler* further discloses recompiling further comprising: customizing compiler optimizations based on the current profile data generated during program execution (see, for example, subsections 2.1, 2.4 and 2.5).

As per claims 11-14, 21-24, and 31-34, these are machine-readable medium, system, and apparatus versions of the claimed method steps discussed above (claims 1-4). Further, *Kistler* discloses the method being implemented on top of the Oberon System 3 for the Macintosh® platform (first paragraph of subsection 2.1) and further discloses implementing the method into continuous optimization framework for the PowerPC 604e™ superscalar out-of-order processor.

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The use of a machine-readable medium is considered inherent and necessary in arriving at and/or utilizing these implementations, and all other limitations have been addressed as set forth above.

As per claim 35, *Kistler* further discloses customizing compiler optimizations being performed using annotations in a high level representation of an executable program which relate portions of the executable to the high level representation (see, for example, subsections 2.2, 2.3, and 2.4).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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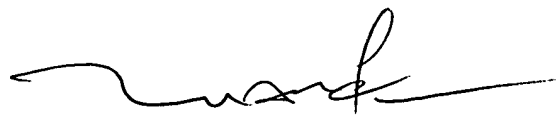
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric B. Kiss whose telephone number is (703) 305-7737. The Examiner can normally be reached on Tue. - Fri., 7:30 am - 5:00 pm. The Examiner can also be reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tuan Dam, can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

EBK / EBK  
January 22, 2004



**TUAN DAM**  
**SUPERVISORY PATENT EXAMINER**